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Economic Research Service Food Costs...
From Farm to Retail

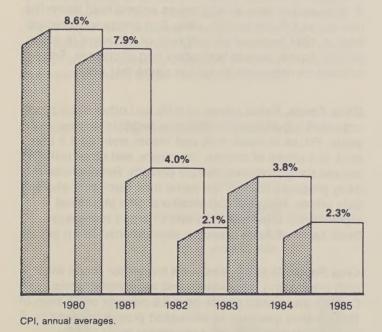
March 1986

What's happening to food costs? How much are they changing, and why? How much of the food dollar goes to the farmer and how much to food processors and marketers? Because of the great interest in these questions, Congress has directed the U.S. Department of Agriculture to study them regularly and report on them. This pamphlet, from USDA's Economic Research Service, brings you up to date on the answers, focusing on developments during 1985.

Food Prices Post Small Rise in 1985

Large commodity supplies and a moderate inflation rate produced a small rise in food prices last year. Food prices, as measured by the Consumer Price Index (CPI), rose 2.3 percent, much less than the 3.8 percent rise in 1984 and nearly the same as the 1983 increase of 2.1 percent, which was the smallest since 1967.

Food Prices Post Small Rise



This pamphlet was prepared in the National Economics Division of the Economic Research Service by Denis Dunham, and is based on a more detailed report; see page 8 for information on how to obtain it. The Economic Research Service carries out research on many aspects of food economics of concern to consumers, farmers, and the food industry.

Changes in Consumer Price Indexes for Food and Other Items

Year	Food			CPI	All items
	Total	At home	Away from home	all items	less food
			Percent		
1980	8.6	8.0	9.9	13.5	14.6
1981	7.9	7.3	9.0	10.4	10.9
1982	4.0	3.4	5.3	6.1	6.6
1983	2.1	1.1	4.4	3.2	3.4
1984	3.8	3.7	4.2	4.3	4.4
1985	2.3	1.4	4.0	3.6	3.9

Data from Bureau of Labor Statistics.

Food prices rose slower at supermarkets and other grocery stores than at eating places, continuing a trend of recent years. Prices at grocery stores went up 1.4 percent while restaurant meal prices climbed 4.0 percent, about the same amount as in 1984. However, food prices in grocery stores rose much less than the previous year, mainly because of very large meat supplies and a decline in meat prices.

The main reason for the smaller rise in retail prices in 1985 was plentiful food supplies, particularly meats. The prices farmers received for food commodities dropped. Consumer demand also was affected by slower growth in per capita real disposable income, which went up 4 percent compared with 9 percent in 1984. In contrast, the farm-to-retail price spread rose more rapidly than in 1984.

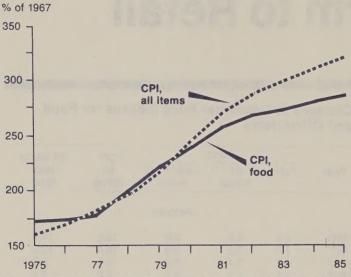
Food Prices Up Less Than Average

For the seventh consecutive year, food prices rose less than the CPI for all consumer products and services, 2.3 versus 3.6 percent. Among the major items in the CPI, prices of apparel and upkeep rose 2.9 percent, housing 4.0 percent, transportation 2.6 percent, and medical care 6.2 percent.

Prices of Some Foods Decline

Although prices of foods that we buy at the supermarket averaged slightly higher in 1985, price changes varied widely among the various food groups. A drop in red meat prices, the largest food spending category, restrained the overall increase. Poultry and egg prices also fell. Prices of dairy products rose the least, 1.9

Food Prices Rise Less Than Other Consumer Prices



Source: Consumer Price Index, Bureau of Labor Statistics, U.S. Department of Labor.

How Register Tapes Compared Average U.S. Food Prices

		~~~
Item and unit size	1984	1985
Some prices fell	E E MINITED	
Ground chuck, 100% beef, 1 lb.	\$1.72	\$1.68
Pork chops, center cut, 1 lb.	2.38	2.34
Round beef roast, boneless, 1 lb.	2.58	2.46
Chicken, 1 lb.	.81	.76
Eggs, Grade A large, 1 doz.  Rice, long grain, uncooked, 1 lb.	1.00	.80 .47
Sugar, white, 1 lb.	.36	.35
Shortening, veg. oil blend, 1 lb.	.92	.88
Potatoes, 1 lb.	.24	.21
	Julie 111	
Some prices rose		
Bacon, 1 lb.	1.86	1.94
Frankfurters, all meat, 1 lb. Lettuce, 1 lb.	1.80	1.81
Cheese, American processed, 1 lb.	2.51	2.53
Apples, red delicious, 1 lb.	.66	.68
Orange juice, frozen, 1 lb.	1.62	1.75
Ice cream, regular, 1/2 gal.	2.22	2.30
Peanut butter, 1 lb.	1.49	1.54
Cookies, chocolate chip, 1 lb.	1.87	1.94
Potato chips, 1 lb. Bread, white, 1 lb.	2.57	2.61
Breau, writte, 1 ib.	.54	.55
Others stayed the same	17708 9	
Flour, 1 lb.	.21	.21
Coffee, ground, 1 lb.	2.58	2.58
Milk, whole 1/2 gal.	1.13	1.13
Tomatoes, canned, 1 lb.	.52	.52
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Source: Bureau of Labor Statistics, U.S. Department of Labor.

percent. Prices of cereals, baked goods, and other highly processed foods rose moderately, averaging 2 to 4 percent higher. Fish and seafood prices went up 4.9 percent. Fresh fruit prices rose the most, by 10.1 percent. Prices were unchanged or lower for some staple foods, including a half-gallon of milk, a loaf of bread, and a pound of sugar or flour.

Here's a wrapup of price changes at the supermarket last year.

Meat. Large production held down red meat prices for the third consecutive year. Record-high slaughter weights of cattle bolstered beef output. Cattle weighed more than normal because producers fed them longer in hopes of higher prices, and weather conditions were good. The large supplies dropped retail beef and veal prices 2.1 percent. Pork production and retail pork prices were virtually unchanged in 1985.

Poultry and Eggs. Poultry prices averaged 1 percent lower last year, a relatively small decline considering that production increased 4.5 percent. The strength of consumer demand kept prices from dropping further. Relatively strong demand may be the result of poultry's low price relative to other meats. Also the further processing of chicken and turkey into parts and boneless meat for restaurants and frozen prepared foods has helped increase poultry consumption. Last year, poultry consumption averaged about 69.5 pounds per person, 2.5 pounds more than in 1984 and 6 pounds more than in 1982.

A 16.6-percent drop in egg prices helped hold down the rise in the CPI for food in 1985. Egg prices were record high in 1984 because an outbreak of influenza in some poultry flocks caused temporary egg shortages. Egg production remained about the same last year.

Dairy Foods. Retail prices of milk and other dairy products rose 1.9 percent in 1985, the largest increase in 4 years. Prices of fresh milk and cream went up 1.5 percent, but prices of cheese, ice cream, and other processed dairy products rose 2.4 percent. Retail prices of dairy products rose at the same time farm and wholesale prices declined, and retail margins increased significantly after several years of small increases. Brisk sales of dairy products strengthened retail prices.

Crop Foods. Retail prices were higher for foods with high processing, packaging, and advertising costs. Cereals and baked goods cost 3.8 percent more than in 1984, mainly because of increased processing and advertising costs, which account for most of their price. Prices of processed fruits and vegetables rose 2.6 percent. Retail prices of fats and oils, such as vegetable shortening and margarine, averaged 2.2 percent higher. While retail prices went up, farm prices of grains and oilseeds, which are the source of the ingredients, went down. The farm value of the ingredients ranges between 10 and 25 percent of retail selling prices of crop-based products.

Candy and other sweets accounted for most of the 2-5 percent rise in prices of sugar and artificial sweeteners. Sugar prices declined slightly because of ample supplies and little change in the price support for sugar.

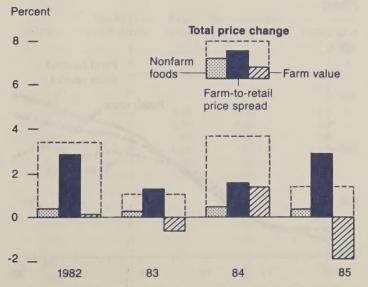
Fresh Fruits and Vegetables. Last year, fresh fruits cost an average 10.1 percent more than in 1984, the second consecutive year that fruit prices increased more than other food categories. Fruit prices rose mainly because of smaller supplies, particularly of oranges, apples, peaches, and other summer fruits. Fresh fruit supplies have been small for 2 years because of weather damage to trees, particularly freezes that destroyed a large amount of citrus. Retail fresh orange prices averaged 6.5 percent higher in 1985, following a 35-percent increase in 1984.

Fresh vegetable prices averaged 4.3 percent lower in 1985. Supplies were larger than in 1984 when freeze damage greatly reduced supplies. Although there was a January freeze in Florida in 1985, it came after many vegetables had been harvested. Mexican imports also were heavy during the winter. Larger potato supplies dropped retail prices an average of 12.4 percent and helped lower average vegetable prices in 1985.

Farm Value Drops

A sharp decline in farm prices of food commodities that restrained retail food price inflation was the primary reason that retail food prices rose less than prices of other consumer items. The farm value (what farmers receive) of USDA's "market basket" of foods fell 7.2 percent in 1985, more than offsetting a modest rise in 1984. With last year's large decline, the 1985 farm value of foods was nearly the same as the value in 1981 when expanding crop and livestock production and weak demand began to depress prices.

Components of Increases in Retail Food Prices



Total price change is food-at-home, Consumer Price Index. Bars represent contribution of factors to price change. Nonfarm includes nonalcoholic beverages, seafoods, and imported foods.

Farm values fell for practically all commodities. Farmers received 8.2 percent less for red meat products in USDA's shopping cart in 1985 than in 1984, reflecting large supplies of beef and pork and expanding poultry production. For 1 pound of Choice beef selling for \$2.33 in 1985, cattle producers received \$1.27 for the equivalent quantity of live animal (2.4 pounds), 13 cents less than in 1984. Similarly, from the average retail price of 76 cents per pound of frying chicken, the farmer received 40 cents, about 4 cents less than in 1984.

Lower producer prices for milk and eggs reduced farm values of these foods. Farmers received 52 cents for a dozen eggs selling for 80 cents in the store, 14 cents less than in 1984. A half gallon of fluid milk retailing for \$1.13 returned the producer 56 cents, about 2 cents less than in 1984. The farm value of fats and oils declined 12 percent, mainly because of lower prices for soybeans, the principal source of oil used in shortening and margarine. The farm value of cereals and baked products fell 8.5 percent, reflecting a decline in wheat prices. Farmers received only 4.1 cents for the wheat in a 1-pound loaf of white bread selling for 55 cents in

Market Basket of Foods Produced on U.S. Farms

Year	Farm value of food	Retail store prices		Farm value share of retail price
		Percent cha	nge	Percent
1980	5.1	7.2	8.6	37
1981	2.8	7.7	10.5	36
1982	.2	3.6	5.5	34
1983	-2.2	.9	2.5	33
1984	5.4	3.9	3.2	34
1985	-7.2	1.2	5.5	31

About the Market Basket

USDA uses its market basket concept to track price changes for commodities farmers sell and the foods consumers buy in retail foodstores. The market basket contains the average quantities of domestically produced food for at-home consumption purchased in a base period. Changes in retail prices of the market basket are components of the CPI for all food, excluding imports, fish, and shellfish.

The farm value represents prices farmers receive for the raw commodities equivalent to foods in the market basket.

The farm-to-retail price spread is the difference between the retail price and farm value. The price spread is the charge for processing, distributing, and retailing foods.

The farm value share is the amount the farmer gets from the dollar consumers spend in retail foodstores.

supermarkets, 0.2 cent less than in 1984. The farm value of other bread ingredients was 0.7 cent, 0.1 cent less than in 1984. The farm value increased by 10 percent for processed fruits and vegetables, reflecting tight supplies for processing in 1985.

Farm Value Share of Food Price Drops

The farm value share is what the farmer receives from the dollar the consumer spends for foods in retail foodstores. Over time, the share reflects relative changes in farm and retail food prices. A decline in the share means that prices received by producers have declined relative to prices in foodstores.

The farm value averaged 31 percent of the retail cost for a market basket of foods, down from 34 percent for 1984 and from 36 percent in 1981. The farm share of the food dollar declined because abundant food supplies held down farm prices while rising food processing and distributing charges boosted retail prices. The farm value share is not a direct measure of the welfare of producers, but a decrease in the short run often accompaniles a decrease in farm income. Net farm income in 1985 is expected to be between \$29 and \$32 billion compared with \$34.5 billion in 1984.

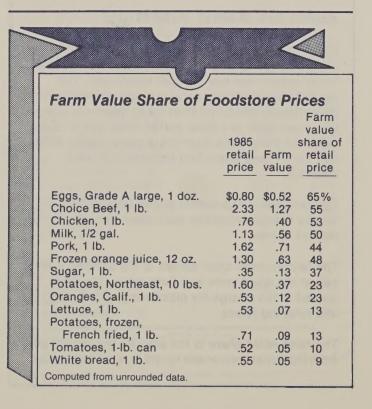
Farm value shares vary greatly among foods. Farm value is a much larger percentage of the retail price of meats, eggs, poultry, and dairy products than for most other foods. For example, in 1985 the farm value share was 55 percent for Choice beef, 65 percent for eggs, and 53 percent for broiler chicken. Thus, changes in prices

received by farmers for these commodities usually affect retail food prices the most. For example, lower farm prices for eggs and poultry caused most of the decline in retail egg and poultry prices. Cattle prices also declined in 1985, and Choice beef prices went down. However, retail beef prices did not drop as much as the farm value because price changes at retail typically lag price changes at the farm, and increasing marketing costs caused the farm-to-retail price spread to widen.

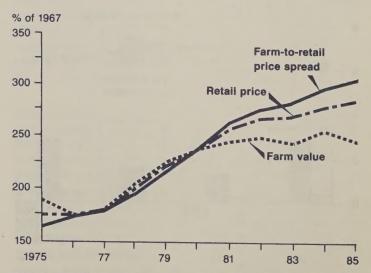
The farm value of most foods that come from grains, oilseeds, and fruits and vegetables represents a small share of the retail price. Last year, farmers received about 10 percent of bakery and cereal prices, 23 percent of processed fruit and vegetable prices, and 24 percent of fresh fruit and vegetable prices. Thus, declines in the farm value of these foods are more likely to be offset by changes in processing and marketing costs. For example, even though the farm value of commodities used in cereals and baked goods fell 8.5 percent, retail prices of these foods rose 3.8 percent.

Farm-to-Retail Price Spread Widens

The farm-to-retail price spread rose 5.5 percent in 1985, the largest increase since 1982. The rise exceeded the 3.6-percent rate of inflation for the general economy as measured by the CPI for all items bought by consumers. The increase in the price spread also exceeded price increases for inputs used in the food industry. Many factors widened the price spread, including the time lag required for lower farm prices to pass through the marketing system; increased marketing inputs, such as labor and advertising; and higher profit margins on food sales.



Retail Price, Farm Value, and Price Spread for Food



Data for a market basket of foods sold in retail stores. Farm value is prices received by farmers for commodities. Price spread represents all charges for processing and distribution.

As measured by a food marketing cost index, prices of inputs used in handling, processing, and retailing food commodities rose by less than 1 percent in 1985, and presumably accounted for little of the increase in the price spread. The small rise in costs is mainly the result of no change in average hourly labor cost in the food industry. Hourly earnings of food retailing workers actually dropped about 3.5 percent. Labor contracts negotiated in recent years are partially the reason for lower average hourly earnings. Many of these contracts established a two-tier wage system for supermarket employees, whereby new hires have a lower wage scale than existing workers. In addition, many chain stores have closed in recent years. Even though many of these stores subsequently reopened, the workers usually are paid lower wages. With the small rise in the price of inputs, the widening of the farm-to-retail spread resulted in higher profit margins for some food manufacturers and distributors. However, greater emphasis on merchandising (advertising, couponing, and other promotions) boosted operating costs of some companies and held down profit margins.

Annual changes in farm-to-retail price spreads among food groups differ because of large variations in farm prices, the normal lag in retail price adjustment, and differing rates of increase in marketing costs. Last year, price spreads for fresh fruit rose about 17 percent because shortages early in the year caused retail prices to soar. Movement of retail prices and the price spread in the same direction suggests that retailers tend to add a constant percentage markup on buying prices rather than a fixed dollar-and-cents markup.

The price spread for poultry, which has increased less than most other foods over time, went up 5 percent. Over time, there also has been little change in the spread between the retail price and farm value of eggs, and last year, it declined about 6 percent.

At the center of attention last year was an increase in the farm-to-retail price spread for Choice beef because lower cattle prices were not fully reflected at the retail meat counter. The beef spread reached a record high of \$1.17 per pound in July 1985 as a large supply of over-finished cattle burdened the market, resulting in sharply lower cattle prices. The spread narrowed later in the year and averaged \$1.06 for the year, about 6 percent higher than in 1984. One explanation for the increase is that retail beef price changes typically lag behind cattle price changes by one to several weeks. Also, beef price spreads were stable between 1981 and 1984, so the 1985 increase was really a jump from 1981. From this perspective, the spread increased at less than the general rate of inflation.

The price spread for dairy products rose over 7 percent in 1985, reflecting a drop in the farm price of milk and brisk sales of dairy products that may have slowed price declines at retail. The price spread for bakery and cereal products widened about 5 percent. This increase may have partly resulted from rising packaging and labor costs associated with the high degree of processing and promoting of these foods. The price spread for fats and oils increased about 11 percent in 1985.

Spending on Domestic Foods at \$346 Billion

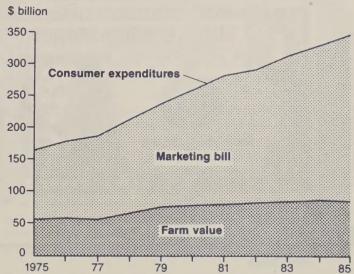
During 1985, consumers spent \$346 billion for foods produced on U.S. farms, about 3.5 percent more than in 1984. This amount includes purchases of farm foods in foodstores, slightly less than two-thirds of the total, and at away-from-home eating places. However, this figure does not include the money spent for imported

Price Spreads for Beef and Pork Widen

Meat	Retail price per pound	Farm value ¹	Farm-to-retail price spread	Farm value share of retail price
		Dollar	S	Percent
Choice beef:				
1980	2.38	1.45	0.93	61
1981	2.39	1.39	1.00	58
1982	2.42	1.40	1.02	58
1983	2.38	1.36	1.02	57
1984	2.40	1.40	1.00	58
1985	2.33	1.27	1.06	55
Pork:				
1980	1.39	.63	.76	45
1981	1.52	.70	.82	46
1982	1.75	.88	.87	50
1983	1.70	.77	.93	45
1984	1.62	.77	.85	48
1985	1.62	.71	.91	44

¹For quantity of live animal equivalent to 1 retail pound; for beef, 2.4 pounds and for pork, 1.7 pounds, minus byproduct allowance.

Marketing Bill, Farm Value, and Consumer Expenditures for Farm Foods



Data for domestically produced farm foods purchased by civilian consumers for consumption both at home and away from home.

foods and seafoods. Rising prices, mainly for restaurant meals, and more buying from service departments of supermarkets, such as bakeries and delicatessens, boosted spending for domestically produced foods. Consumers also bought a slightly greater quantity of food per person, mainly due to larger supplies of poultry.

About 25 percent, or \$85 billion, of last year's food spending went back to farmers. This share is a weighted average of the 31-percent farm share of food at home and the much lower 14-percent share of away-from-home food spending. The remaining \$261 billion—the marketing bill—went to the food industry for handling, processing, and retailing foodstuffs after they left the farm. The marketing bill was up about \$16.5 billion in 1985. Of this, consumers paid about \$11.5 billion in the form of higher expenditures and producers received \$5 billion less for food commodities mainly due to lower prices.

Higher Labor Costs Add Most to Marketing Bill

About \$7 billion of the \$16.5 billion marketing bill increase can be traced to higher labor costs. Packaging materials and food containers added another \$1 billion. Industry profits also climbed in 1985. Here's USDA's analysis of what happened to food industry costs for:

Labor. Total food industry labor costs rose 6.5 percent to about \$119 billion in 1985 due mainly to a substantial rise in employment and higher management compensa-

What Consumers Spent on Foods from U.S. Farms

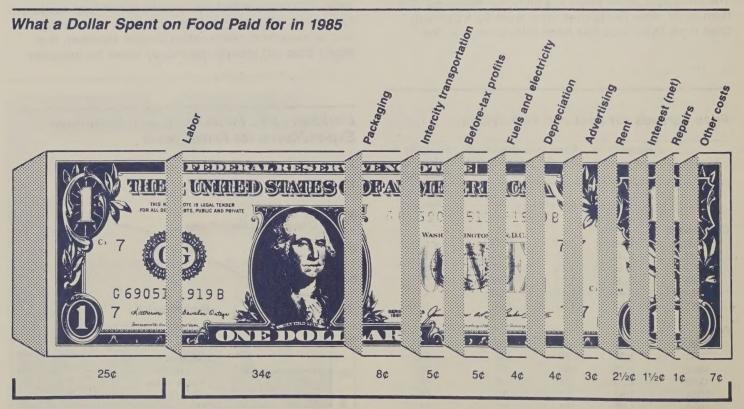
Year	Expenditure ¹	Marketing bill	Farm value	Farm value share of expenditures	
	Billion	dollars		Percent	
1975	167.0	111.4	55.6	33	
1980	264.4	182.7	81.7	31	
1982	298.9	215.2	83.7	28	
1984	334.6	244.6	90.0	27	
1985	346.3	261.2	85.1	25	

¹Includes spending at both foodstores and eating places.

²This share is lower than the share for the market basket because it includes spending in eating places, which is heavily weighted by food service costs.

tion. This was about one-third of total consumer food spending and two-fifths larger than the farm value.

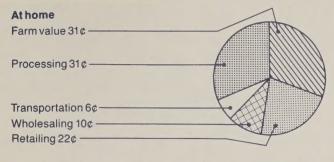
The increase in labor costs, while a large dollar amount, represented a smaller percentage increase than in 1984. The smaller rise resulted from multitiered pay scales and small wage increases that stabilized average hourly earnings of food industry production and nonsupervisory workers. However, food retailing employment rose about 6 percent, due in part to the rapid growth of service departments, such as bakeries, in supermarkets. Employment rose about 4 percent in eating places and over 2 percent in the food manufacturing industry.

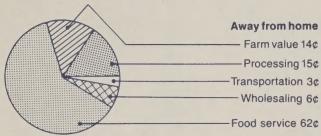


Farm Value Marketing Bill

Includes food at home and away from home. Other costs include property taxes and insurance, accounting and professional services, promotion, bad debts, and many miscellaneous items.

Where the Food Dollar Goes at Home and Away





1985 data.

Labor costs for the food industry have been tempered by the slower general inflation rate; labor agreements with workers that provide small wage increases, reduced pay for holiday and evening work, and reduced benefits, such as vacation time; and the relaxation of work rules that, retailers felt, hurt productivity.

Packaging. Costs for food containers and packaging materials were moderately higher in 1985, mainly because of price increases for paperboard shipping boxes and plastic materials. At \$27.5 billion, these costs were 8 percent of total consumer expenditures for farm foods.

Transportation. The cost of transporting foods was \$16.5 billion in 1985, up about 2.5 percent, due to only a slight rise in freight rates and a larger volume of food marketed. Railroad freight rates for food products rose less than 1 percent; truck rates for hauling produce and other foods were held down by lower diesel fuel prices and strong industry competition from an increased number of independent truckers.

Energy. The energy bill of food processors, wholesalers, and retailers was \$13.5 billion in 1985, about 4 percent of consumer expenditures for farm foods. Energy costs rose sharply through 1981 but slowed markedly in the past 3 years. Last year, the rise in energy costs was slowed by large petroleum stocks that stabilized natural gas and diesel fuel prices. Electric rates, however, rose about 3 percent.

Food Industry Profits Rise

Dollar profits of the food industry rose in 1985, mainly due to increased sales. Profit margins were nearly stable. Food industry profits before taxes from marketing foods of domestic origin were about \$17 billion, or 5 percent, of consumer spending for farm foods.

Based on Federal Trade Commission data for the first 9 months of 1985, aftertax profits of manufacturers of food and kindred products were 3.2 percent of sales in 1985, the same as in 1984. Returns on stockholders' equity declined slightly, from 13.2 percent to 12.7 percent, still slightly below the long-term average rates of return for food manufacturers. Profit margins have been affected by higher advertising and promotion costs, and in some cases, by expenses related to acquisition activity.

Food Industry Aftertax Profit Margins

Year n	Food nanufacture	Retail food rs chains	Food manufacturers	Retail food chains
	Percent	of sales	Percent of si	
1980	3.4	0.9	14.7	13.7
1981	3.1	1.0	13.6	13.9
1982	3.1	.9	13.0	12.7
1983	3.3	1.1	12.3	13.6
1984	3.3	1.4	13.3	17.3
1984 (9 mont	ths) 3.2	1.3	13.2	16.6
1985 (9 mont		1.2	12.7	13.7

Aftertax profits of food chains averaged 1.2 percent of sales in the first 9 months of 1985 compared with 1.3 percent a year earlier. Returns on stockholder equity also went down. However, profit margins of food chains in 1984 and 1985 were above the traditional industry standard. The reason for the higher margins appeared to be healthy sales gains, relatively stable labor costs, and economies resulting from closing inefficient stores and improving inventory management.

Food Spending Increases Less Than Income

Although food costs are rising, they are not increasing as much as total consumer income. A declining proportion of income spent for food, leaving more money for other things, is an often-used indicator of a rising standard of living.

In 1985, food spending (for domestically produced as well as imported foods and fish) was 15 percent of total personal disposable income as reported by the Department of Commerce in the national income and product accounts. That was about the same as in 1984. However, this percentage has declined over the years because personal income has risen more than food expenditures. The 1985 share compares with 15.8 percent in 1980 and 16.5 percent 10 years ago. The share declined very little during the relatively high food price inflation in the 1970's. In the early 1980's, moderating inflation and a large boost in disposable income reduced the share of income spent on food by a larger amount than in most years over the past decade.

The proportion of income spent on food varies widely by income levels. Based on 1982 data, the latest avail-

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able by income group from a consumer expenditure survey by the Department of Labor, consumers with incomes before taxes between \$5,000 and \$10,000 spent 28 percent of their income for food, those with incomes between \$15,000 and \$20,000 spent 16.1 percent, whereas consumers with incomes between \$30,000 and \$40,000 spent an average of 11.5 percent.

Would You Like More Detailed Information?

This report is based on a more detailed report, Food Cost Review, 1985, to be published in the summer. In

additon to reporting on recent developments in food prices, farm-to-retail price spreads, food spending, profits, and marketing costs in the food industry, it discusses price spread changes for leading food items such as Choice beef, milk, and bread. It also includes statistical tables and charts.

To receive ordering information when the report is issued, send your name and address to Food Market Analysis, Economic Research Service, USDA, 1301 New York Avenue, N.W., Room 1137, Washington, DC 20005-4788. Call Denis Dunham at (202) 786-1870 if you need further information.